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Inflation, Oil Shocks, Financial Crisis and Social Security

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Abstract

The paper examines the impact of recent inflation and financial shocks on the vulnerable, and explores policy design to reduce both future shocks and vulnerability to shocks. Inflation affects the typical savings cum pension portfolio and the specific consumption basket of the old, as prices of services rise compared to manufactured goods. Money illusion and habit, which tend to increase with age, aggravate the psychological trauma associated with inflation. The decline of traditional sources of social security marginalizes those without savings, in the context of sustained rural-urban and international migration. Trends determining inflation—domestic and global, institutional change, and greater openness explain why inflation has been moderate in India, compared to other emerging markets. Since the polity is averse to high inflation, and commodity price shocks are moderating, high inflation will not persist. But the shocks demonstrate the importance of food price inflation for aggregate inflation in populous South Asia. Therefore improvements in agricultural productivity, with supportive buffer stock, fiscal and monetary policy are critical to lower the level of chronic inflation. Regulatory changes to reduce excessive risk-taking in financial markets and the aggravation of inflation from speculation are examined. Finally, other policy measures to improve security for the old and keep them an active, vital part of the community are drawn together.

JEL codes: E31, G18, H55

Key words: Aged, Inflation, Oil shocks, Financial crisis, Social security

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Introduction

The recent period has seen multiple shocks especially to the economically vulnerable. While sharp inflation in essential commodities reduced consumption, inflation eroded the value of savings in fixed income securities, and the collapse of financial markets wiped out equity based savings. The paper argues policy must put the vulnerable at center-stage and explores policy design to reduce both future shocks and vulnerability to shocks.

The first section establishes the impact of inflation on the typical savings cum pension portfolio and on the specific consumption basket of the old, as prices of services rise compared to manufactured goods. It analyzes (i) the role of money illusion and habit, which tend to increase with age, on the psychological trauma associated with inflation, and (ii) the impact of the decline of traditional sources of social security, for the marginalized without savings, in the context of sustained rural-urban and international migration.

The next section turns to the macroeconomic trends determining inflation, giving reasons inflation has been moderate in India, compared to other emerging markets, examining the impact of global trends, institutional change, and greater openness. India typically has had high single digit rates of inflation. These had halved in the past few years. Policy aimed to keep inflation at around 5 percent, gradually bringing it down to 3 percent. Productivity improvements and lower global food prices had contributed to containing inflation. But global oil and food price shocks, aggravated by commodity speculation, led to a resurgence of inflation worldwide in 2008. Since the polity is averse to high inflation, it cannot persist in India. The reversal of commodity price shocks and the global slowdown brought inflation down in 2009, although food price inflation remained persistent. The shocks demonstrate the importance of food price inflation for aggregate Indian inflation. South Asia shares this feature because of shared high population density. We discuss improvements in agricultural productivity, with supportive buffer stock, fiscal and monetary policy that can lower the level of chronic inflation.

Given the impact of financial crises on savings of the old and on liabilities of domestic taxpayers, and aggravation of inflation from speculation in commodity future markets, the next section, examines regulatory changes to moderate excessive volatility in financial markets and consequent transfer of resources from the vulnerable.

Apart from inflation control through productivity improvements and improvements in financial regulation, the next section draws out other implications for policy, ranging from pension reform, specific social security measures, special schemes for medical services through public-private partnership, better organization as a vote group, disability access and the provision of other facilities that can keep the old an active, vital part of the community.

Fixed Incomes and Inflation

Inflation is not a problem for those whose wages or salaries also inflate. But if your income is Rupees 10,000 from a fixed pension, and inflation is running at ten percent per annum your real income shrinks every year. In fourteen years time you are left with nothing in real terms. There are two categories of people whose incomes are not or are only partially inflation indexed. The first are the old on pensions fixed in nominal terms and the second are workers in the informal sector without a regular process for revision of wages. Even if nominal pensions and wages are revised, this happens in an arbitrary way and after years of steady erosion.

Older people do not rely only on pensions. Normally they have assets and income from assets. But given habit, lack of choice in developing countries that reinforces this habit, the natural preference for security and the high risk-aversion of the aged, they largely opt for fixed deposits or government bonds if available. These assets tend to have low interest rates that barely keep up with inflation, so that if they withdraw income earned, their assets shrink in real value[2]. For example, if they are living on a ten percent income stream that equals the rate of inflation, they are effectively eating away their assets at ten percent. If they are not spending the asset income, adding it to the asset instead, the asset is maintained, but they get zero income from it. Therefore inflation steadily eats away the typical savings cum pension portfolio. At ten percent inflation, an asset halves in value every seven years.

The problem is worse for the old, first because of changes in relative prices that accompany an inflationary development process. The consumption basket of the old is heavily weighted towards informal services whose prices rise compared to manufactured goods. If laptops are becoming cheaper this does not help the old who may not be using them. Since their consumption basket may be more static they are left out of lifestyle innovation that has the potential to lower costs. Medical expenses, however, rise steeply. There is the problem of higher prices for better quality. New medicines or technologies of treatment may be lifesaving but are difficult to fit in a budget set when these treatments did not exist. A major illness or prolonged hospitalization can be impossible to finance without insurance or government help.

Second, inflation creates a psychological trauma because of money illusion and habit, which tend to increase with age. The frequency of complaints at escalated prices for everyday goods rises with age, even if the escalation of incomes keeps up or is higher. Money illusion makes the nominal price matter. If incomes have not kept up, of course, there are genuine grounds for complaint. The economists' prescription of adjusting demand in response to changes in relative prices is more difficult for the old who are set in their ways and unwilling to consume less of items they are used to, but whose prices have increased. Psychology has been enriching economics in recent times. We have learnt why it may be rational to be irrational and that people are irrational in predictable ways. Prospect theory (Kahneman and Tversky, 1979) tells us that a loss is felt more severely compared to a gain. The aged face many losses, of health, of agility, of associates. Inflation adds to these losses.

[2] These choices are reinforced since public sector banks give higher interest rates to senior citizens on fixed deposits. This is an example of a government policy to allow the aged a better income, given their preferences.

So far we have been discussing the effect of inflation on those who have income or assets. But what of the marginalized who have no savings, or pensions? The family was the great insurance against poverty, old age and ill health. But families are breaking up with higher mobility and a smaller cohort size. There is migration from rural to urban areas and from cities and villages to foreign locales. The Indian government had washed its hands of social security, leaving it to the private sector. It is seeking to arrest the inevitable decline in traditional sources of this security by passing laws making children liable for the welfare of old parents. But the problem also arises since old are not willing or find it difficult to change residence/ lifestyle to adapt to the very different lives of their children. There may be real time and distance constraints for the younger generation. This is a problem also for those with means, not just for the marginalized. Therefore social or institutional alternatives have to be developed.

Trends in Inflation

We have seen that inflation has very negative effects on the aged. But what are expected inflationary trends given liberalizing market reforms? These have coincided with much lower inflation worldwide, except over 2007-08. Are there factors making for lower trend inflation in the world and in India?

Indian inflation has been moderate, compared to other emerging markets, such as some Latin American countries where inflation routinely exceeded triple digits. India typically has had high single digit rates of inflation. These had halved in the past few years. Policy was hoping to keep inflation at around 5 percent, gradually bringing it down to 3 percent. Productivity improvements and lower global commodity and food price inflation had contributed to importing low inflation. Monetary policy had also improved, with Central Banks able to credibly anchor inflation expectations.

The seventies oil shock had triggered a worldwide bout of high inflation, but subsequent shocks were absorbed without inflation until 2007. Equivalent crude price shocks occurred in the late seventies, late nineties and over 2002-2005 but the world, including India, bore these better. The reasons according to Blanchard and Gali (2007) were openness, cheap imports, more flexible wages, less dependence on oil, and better monetary policy. There was also the absence of other adverse shocks. Rising productivity lowered costs even in the emerging markets.

But the steep spike in food and oil prices together over 2007-08 has again sparked worldwide inflation even as the world was struggling with the fallout of the sub-prime crisis. International food and commodity prices had been largely falling through the nineties but reversed in 2002 (Table 2). The rise has been particularly steep for food prices in 2006-07 (12.5 percent) and 2007-08 (45.28 percent)[3]. Explanations for the rise in food prices, include stagnating agricultural productivity and investment after a decade of falling prices, the use of grain for biofuels[4], climate change and drought in parts of the world, input costs rising with oil prices, increasing consumption including that of meat in fast-growing emerging economies with a relative neglect of agriculture, and the weak US dollar.

Crude price rose sharply: more than 100 percent over 2002-05, and another 100 percent since then. It peaked at $147 per barrel on July 11, 2008[5], but in another two months had fallen again to $100, and crashed to below $40 by the end of the year. Demand was close to supply for oil, inventories were low, and despite the slowdown in the US, robust oil demand was expected from emerging markets, while the OPEC cartel curtailed supply. Speculation in future markets influenced spot prices. But after the Saudis began pumping more oil, and there were signs of consumer resistance to high prices, the tide turned. Many hedge funds lost money as prices crashed.

Since shortages coincided with a real slowdown and financial turmoil, the large liquidity pumped in to prevent a downturn went into commodity speculation and aggravated price spikes. But as the demand slowdown reduced commodity demand, prices fell equally steeply. Although short-run commodity supply is fixed and demand is inelastic, high prices for any specific commodity do lead to a rise in supply and decrease in demand over time. The concentrated, coincident and exceptionally large spikes in commodity prices could not be absorbed without inflation. Since the spikes

[3] The monthly average price for benchmark Thai white rice shot up to $US962.60 a tonne in May 2008 from $US385 in January. Food riots occurred in many places in the world.
[4] The IMF estimated that biofuels accounted for almost half the increase in consumption of major food crops in 2006-2007.
[5] The rise had been very rapid. For example, on 20 November 2007 it had been at $ 90. The average price in 2007 was $ 67.93 per barrel.

have moderated, however, so should inflation. But the experience of coordinated spikes suggests that it is necessary to protect those vulnerable to such spikes, and to prevent their recurrence. It will help them most if this is done with minimum loss in output. A growing economy has more resources to spend on the old and vulnerable.

Prospects for Indian Inflation

Inflation and especially inflation in food prices is a very politically sensitive issue in India given the large voting population at subsistence, without automatic indexation of incomes to inflation. The old are also part of the latter group. Indian policy therefore has always responded strongly to inflation spikes but the political economy of interventions and farm price support has encouraged high costs and persistent low-level inflation. High food prices raise wages over the longer term and affect costs in all sectors. Stagflation sets in after an initial supply (oil price) shock if wages rise forcing a further price rise. The weight of food is 46.2 percent in the CPI-IW, 15.4 percent in the WPI. Petrol and diesel have a lower weight—only 5 percent weight in the WPI. Rise in wages in response to food prices have been important in second round propagation of Indian inflation. South Asia shares these features because of a shared high population density, although differing political structures can make governments less sensitive to public opinion.

Indian policy response to past oil shocks demonstrates the concentrated action against inflation spurts[6]. Table 1 gives growth, inflation, and policy variables starting from one year before and continuing for one year after the first three episodes when there was sharp inflation in the fuel component of the WPI (FPL&L). It also shows the importance of food price inflation for aggregate Indian inflation. Each period saw about a 100 percent rise in international oil prices, but the pass through to Indian prices was a policy decision. Monetary and fiscal tools were also used. The Table shows rates of growth of reserve money, broader M3, and ratio of Central Government expenditure to GDP.

[6] This part draws on analysis in Goyal (2008).

Table 1: Output Sacrifice in Response to Past Inflationary Shocks

Oil Shock		Growth rates			Cen. Govt. Expenditure/GDP	Indian inflation: WPI average of weeks			Inflation
		GDP (fc)	Reserve Money	M3		All commodities	Primary articles	Fuel & Power	$ Crude Oil
1	1972-73	-0.3	12.1	18.3	14.6	10	9.7	4	-0.6
	1973-74	4.6	20.6	17.4	12.5	20.2	28.1	18.6	15.9
	1974-75	1.2	4.6	10.9	12.8	25.2	25.2	25.2	118.6
	1975-76	9	2.7	15	14.9	-1.1	-6.6	10.5	14.4
	1976-77	1.2	25.5	23.6	15.2	2.1	0.8	5.3	4.9
2	1978-79	5.5	28.7	21.9	17.0	0	-1.3	4.4	4.2
	1979-80	-5.2	17.7	17.7	15.7	7.1	13.8	15.7	42.2
	1980-81	7.2	17.4	18.1	15.8	18.2	15	25.2	58.4
	1981-82	5.6	7.9	12.5	15.0	9.3	11.3	20.7	25.5
	1982-83	2.9	10.1	16.6	16.4	4.9	6.7	6.5	-9.6
3	1998-99	6.7	14.5	19.4	16.0	3.3	12.1	3.3	-34.2
	1999-00	6.4	8.2	14.6	15.3	3.3	1.2	9.1	39.9
	2000-01	4.4	8.1	16.8	15.5	7.2	2.8	28.5	61.4
	2001-02	5.8	11.4	14.1	15.9	3.6	3.6	8.9	-18.8
	2002-03	3.8	9.2	14.7	16.8	3.4	3.3	5.5	5.0

Source: RBI Handbook of Statistics on the Indian Economy; for crude oil: www.eia.doe.gov. Reproduced from Goyal (2008).

Shock 1 saw a drastic cut in reserve money growth, and some cut in government expenditure. Inflation was negative by the third year, but growth lost was high. In shock 2 the contraction was milder and was moderated also by the smaller effect the contraction in reserve money now had on broad money. Inflation showed neither the peaks nor the troughs of the earlier episode and took a bit longer to moderate. The growth loss was concentrated in the first year, driven by a fall in agricultural output. Deficits expanded with subsidies. Shock 3 had a similar fiscal tightening and an even milder monetary squeeze. M3 growth was quite stable. Yet inflation moderated quickly; output growth was respectable. Deficits improved. Apart from milder monetary contractions, a key difference accounting for improved outcomes was lower agricultural inflation compared to the earlier two episodes. Despite stagnating domestic agriculture, falling international prices in a more open regime had countered political pressures, from the strong farm lobby, to ratchet up procurement prices.

Table 2 shows how lower inflation in primary articles from 1999-2000, following the fall in the world food inflation, contributed to lower Indian inflation, despite oil shocks. Consumer price inflation also fell. During the fourth oil shock over 2007-08, the sharp rise in Indian inflation occurred partly because food price inflation was higher.

Table 2: Comparing Indian and Foreign Commodity Inflation

Inflation from Indian Wholesale Price Index						Inflation as per IMF Commodity Price Index (Point to Point Basis (March-March))		
Year	**All commodities**	**Primary articles**	**Fuel PL & L**	**Manufactured Products**	**Consumer Price Index (Industrial Workers)**	**Non fuel + fuel index (100.00)**	**Food Price Index (16.70)**	**Fuel (energy) Index (63.40)**
1990-91	10.3	13	12.3	8.4	11.6			
1991-92	13.7	18.1	13.2	11.3	13.5			
1992-93	10.1	7.5	14.1	10.9	9.6			
1993-94	8.4	6.9	15.5	7.8	7.5			
1994-95	12.6	15.8	8.9	12.3	10.1			
1995-96	8	8.2	5.1	8.5	10.2			
1996-97	4.6	8.4	10.4	2.1	9.4			
1997-98	4.4	2.7	13.8	2.9	6.8			
1998-99	5.9	12.1	3.3	4.4	13.1	4.39	-12.82	27.41
1999-00	3.3	1.2	9.1	2.7	3.4	25.03	2.4	49.51
2000-01	7.2	2.8	28.5	3.3	3.8	-3.3	-2.8	-2.9
2001-02	3.6	3.6	8.9	1.8	4.3	-7.4	-2.7	-9.9
2002-03	3.4	3.3	5.5	2.6	4	17.72	10.18	27.59
2003-04	5.5	4.3	6.4	5.7	3.9	16.52	23.91	12.64
2004-05	6.5	3.6	10.1	6.3	3.8	27.13	-4.0	46.38
2005-06	4.4	2.9	9.5	3.1	4.4	16.20	2.32	19.96
2006-07	5.4	7.8	5.6	4.4	6.7	8.15	12.51	0.28
2007-08	8	10.1	6	7.9	7.9	47.69	45.28	65.16
2008-09 (aug 08-aug09)	12.5	11.5	17.6	10.9	8.3			

Source: Calculated from www.rbi.org.in and http://www.imf.org/external/np/res/commod/datar

Because of policy intervention, Indian inflation responds only with a lag to world price inflation. Although world food prices had started rising in 2002, following rising oil prices, Indian food inflation remained low, partly since the pass through of oil prices was moderated, and partly since minimum support prices for the major cereals increased only marginally in this period. But after mild increases (prices were almost stationary) from 1999, Indian procurement prices also jumped up in 2006-07, and inflation in primary articles reached 7.8 percent. Table 3 shows the rapid rise in procurement prices from 2006-07. With the discipline on procurement prices from low border prices gone, and food stocks at an all time low[7], the government was forced to offer special bonuses—support and procurement prices rose sharply[8].

Table 3: Food price inflation and minimum support prices

Year	2006-07	2007-08	2008-09 (February09)
WPI Food Articles	7.68	5.27	9.93
WPI Foodgrains (Cereals + Pulses)	10.17	3.94	12.12
Minimum support prices Paddy	610+	675^^	-
Wheat	650#	750^	1080

An incentive bonus of Rs. 50 per quintal given on wheat purchased during 20.3.06 to 30.6.06 over and above the MSP.
+ An incentive bonus of Rs. 40 per quintal over and above MSP given on paddy applicable for the period 1st October 2006 to 31st March, 2007. Applicability of incentive bonus for States of Andhra Pradesh, Chhattisgarh, Orissa, Tamil Nadu and West Bengal has been extended upto 30.9.2007. For Bihar and Kerala the same has been allowed upto 31.5.2007.
^ An incentive bonus of Rs. 100 per quintal over and above the MSP for wheat in RMS 2007-08 has been allowed.
^^ An incentive bonus of Rs 100/- over and above MSP for paddy in KMS 2007-08 allowed.
Source for MSP(Paddy & Wheat):
http://fcamin.nic.in/dfpd/EventDetails.asp?EventId=666&Section=Policy&ParentID=0&Parent=1&check=0

The rise was, however, much below the spike in international food prices. Since food stocks have been built up and the domestic supply response was there, it was possible to prevent an Indian spike.

Indian policy follows a tightrope between the interests of the farmer and that of the consumer. Consumer interest dominates under sharp spikes because of the political sensitivity to inflation. Spikes are always resisted. Since the supply response to commodity and food prices takes some time, prices can rise steeply under temporary supply shortfalls. That is why buffer stock and administered prices; changes in taxes, tariffs and subsidies to smooth prices are useful for consumers. They are useful for

[7]Foodgrain stocks, which had been a healthy 482.05 lakh tonnes in 2003 fell steeply after that, and had reached a trough of 123.82 in October 2006 below the buffer stock norm (figures from fcamin.nic.in). Recovery of stocks required a rise in procurement prices and some restrictions on exports.
[8] In 2005-06 the paddy support price had been Rs 600 and wheat Rs 640.

producers also because sharp spikes can lead to a massive plantation that can subsequently cause prices to collapse. But these policies also prevent transmission of international price falls, and maintain chronic low inflation. Although WPI inflation had fallen to 5 percent in early 2009 CPI inflation, with a large weight of food, was running at about 10 percent.

Table 2 shows not only is international inflation passed on with a lag, since a decision to change administered prices occurs with a lag, but a spike is always moderated. Indian prices, however, continue to rise even when international are falling, so that the rise is the same, or maybe even more, but staggered over a longer period. This is especially clear in the oil sector, even though with reform, the share of administered prices is shrinking. The oil pool account and administered price mechanism created in 1974 was dismantled in 2002 but administered prices were retained for petrol, diesel, kerosene and gas. The UPA government did not fully pass on these shocks but unable to subsidize the sheer magnitude of rise, it finally raised prices in 2008. Since fuel prices neither rose nor fell as much as international, cumulative Indian fuel inflation had exceeded international until 2005; after that it was less.

Optimal Policy Response

Thus the Indian response to inflation includes first, fiscal policies working through administered prices, buffer stocks and tax/tariff mechanisms. Expanding food supply, and insulating domestic food prices, to the extent possible, from sharp international price spikes is useful. Second, although monetary policy is regarded as the most potent medicine for inflation, under a temporary supply shock its role should be restricted to anchoring inflationary wage-price expectations. A moderate tightening, with a long-term inflation target, is sufficient for this purpose. Greater interest sensitivity now makes new options available. Gradual adjustment is possible as forward-looking agents factor in future steps. Policy must encourage the productivity improvements that can absorb a rise in nominal wages without raising prices; a sharp demand squeeze would hinder this process. If inflation is credibly expected to come down, a temporary spike will not set in motion the wage-price spiral. The first round inflation from a supply shock has to be accommodated, but second round effects prevented. Since prices tend to be rigid downward, the initial relative price adjustment should be allowed to go through.

Some exchange rate appreciation is another weapon available to monetary policy as a response to temporary external supply shocks. It lowers the impact of global commodity price rise. Large foreign exchange reserves make such a policy feasible. Appreciating the exchange rate can work for a temporary shock, but a persistent supply shock requires a rise in productivity to sustain appreciation without output loss. A competitive real exchange rate must be maintained to prevent rising current account deficits.

In the Indian context, that exports did not suffer from appreciation implies some productivity improvements have taken place – so limited appreciation is possible. But the real exchange rate also has to be compatible with the level of real wages. Real appreciation allows real wages to rise. But if nominal wages rise, without a rise in productivity, inflation will force a real appreciation even without a nominal appreciation. So under a temporary shock nominal appreciation can abort this wage-price cycle. If the shock is permanent, there is some output cost (as exports fall), unless productivity gains have reduced costs. The steep depreciation of 2008 was not able to stimulate exports in the face of the global demand contraction, suggesting such a sharp depreciation was not required.

Third, falling demand may reduce industry's ability to pass on costs through price increases. But mark-ups tend to rise when volumes fall as industry tries to protect margins. Therefore productive growth is the best way for India to avoid the past stagflationary trap. This is particularly urgent given the pressures on international food prices. Improving supply chain efficiencies can give farmers better prices without raising prices for consumers. Historically terms of trade have improved in favour of farmers when agriculture price inflation was low. But policy has to stimulate sustained improvements in agricultural productivity rather than a support price-subsidy complex that encourages high costs. The crude price rise may be a bubble that has burst, but action is required to contain creeping domestic food price inflation.

Inflation aversion of the polity ensures the vulnerable in India are protected from inflation price spikes but improvements in policy are required to deliver them from low chronic inflation that eats away their savings.

Speculation and Inflation Volatility

The unprecedented volatility in global oil and food prices implicates financial markets. To prevent recurrence of such episodes, reform of financial markets is also required.

The US sub-prime mortgage crisis hit financial markets in August 2007 and spread to other countries. Massive liquidity was pumped in to keep markets going, but with a real sector slowdown funds started looking for returns from oil and food future markets, since demand is relatively inelastic for these products[9], supply was close to demand and takes time to adjust. The one-way movement in futures prices, since everyone expected prices to rise, pulled up spot prices. The speculative wave contributed but a rise in spot prices requires a rise in inventories. Although public inventories remained low there may have been large-scale private hoarding. Moreover, in oil markets, the OPEC cartel impacts supply.

Thus there are two questions for financial regulation. First, how to prevent crises in the financial sector? Second, and more specific, the effect of commodity future markets on spot prices.

Financial crisis

The features that distorted incentives and encouraged excessive risk-taking are now well understood[10]. Among these were procyclical bonuses, securitization, uniform mark to market accounting rules, conflicts of interest for rating agencies, and reliance on risk models based on market prices, so that systemic risk and diversity of views were neglected. Regulation was weakened both in law and in practice.

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[9] Jha (2008) quotes from the Commodities and Futures section of the International Business Times that the July futures price for rice rose 71 per cent between early December 2007 and the third week of April, and from the UN's Food and Agriculture Organisation that since 2005 investors have begun to use agricultural markets either for speculation or for portfolio diversification. Jha also reported in private correspondence on time series results that show future prices to influence spot, but not the other way around.

[10] These features are discussed in more detail in Goyal (2009), which this section is based on.

Greenspan and Rubin strongly rebuffed attempts to increase regulatory oversight over derivative markets and mortgage lenders, since they believed markets were self-regulating, while regulators would damage innovation, and the ownership society, since their natural inclination was to prevent activity. After the US Glass-Steagall Act that separated investment and commercial banks was repealed in 1999, commercial banks also were able to underwrite and trade asset backed securities etc. through off balance sheet structured investment vehicles. The US Securities and Exchange Commission (SEC) was now the regulatory authority for securities and brokerage operations of investment banks. To escape threatened regulation in the EU, investment banks sought a bargain in 2004 that gave the SEC voluntary regulatory oversight over the parent holding companies as well. In return, the SEC allowed higher leverage, relaxing the ceiling of twelve times capital on borrowing. Capital adequacy requirements, such as the Federal Reserve (Fed) imposed on deposit accepting banks, were now missing, but the window the SEC had been given on the banks risky investments was never used.

The Commodity Futures Modernization Act of 2000 exempted credit default insurance from regulation by calling them swaps. The post Enron 2002 Sarbanes Oxley Act allowed off balance sheet activities so long as other entities held the risks and rewards, thus encouraging the “originate and distribute” model. Amendment to the Community Reinvestment Act in the mid-nineties allowed securitization of sub-prime mortgages to make home loans possible for low-income categories, since the Clinton administration wanted to expand home ownership. A laudable objective was driven to excess in the Bush era where loans were pushed without documentation, to parties with no collateral except rising housing prices. Tax breaks such as deduction of mortgage interest payments from household taxable income further encouraged leverage. The boom psychology of greed and euphoria took hold.

A consequence of light regulation was high leverage: 30:1 compared to 15:1 for a commercial bank. Investment banks made money by borrowing short in the wholesale retail market, leveraging the borrowing many times and lending long. This kind of strategy is extremely susceptible to a fall in asset values and is not viable if stricter regulatory norms reduce leverage. This is one reason the remaining investment banks have been forced to become bank holding companies, which have now been put under the Fed’s regulation.

Without any central netting or regulatory knowledge, the chain of securities and structures financing sub prime mortgages was opaque. This meant investors could not determine the location and extent of risk when housing prices began to fall. When the ABX index introduced showed a rapid fall in the price of sub prime bonds, the lack of knowledge of where the risk lay led to worry about counterparties, a freeze in intra-bank markets, and spreading crashes in the prices of structured products as banks were forced to sell them. The fear driven collapse had begun before, but was intensified after Lehman Brothers was allowed to fail.

The contribution of low interest rates to the liquidity build up was tiny compared to that due to lax regulation. BIS estimates that notional amounts outstanding in derivatives grew from $100 trillion in 2002 to $516 in April 2007—an annual compound rate of growth of 33 percent. Compared to this, the broadest measure of US money supply is about $15 trillion with an annual growth rate of about 6 percent. Monetary policy’s first priority must be the real sector and cycle, since counter cyclical prudential regulation is available to target financial bubbles. Clever financial solutions probably prevented the required real adjustments.

However, during systemic failures, Central Banks have to become lenders of the last resort, and in current conditions, even market makers of the last resort (Buiter and Sibert, 2007). For example, as the sub-prime crises intensified, the Federal Reserve created a new Term Securities Lending Facility (TSLF) to allow troubled financial institutions such as big investment houses and banks to borrow up to $200 billion in safe Treasury securities with their more risky investments as collateral. It was the first time the Fed was accepting mortgage-backed securities and lending to investment houses. This even though it recognized that lenders used unfair or deceptive practices to push high-cost loans on sub-prime borrowers.

Globalization increased the power of finance compared to that of labour because of capital’s much greater mobility as controls on capital accounts were removed. It is difficult to tax an entity—such as finance capital—that can exit to regions with lower tax. The huge bailouts are carrying this one step further and forcing labour to subsidize finance. Tax paid in good times would function as an insurance premium against the risk that taxpayers might have to finance bailouts in bad times. Incentives for pro-cyclical risk taking that prevail currently would reduce, improving financial stability. Contra-cyclical capital charges should rise as the market price of risk, measured by financial market prices, falls in boom times (Goodhart and Persaud, 2008). Speculative activity contributed to steeply raising prices of basic food consumed by the poor. Tax or regulatory initiatives would reduce imposts on the poor as well as speculative activity and the price spikes it generates. But any tax-based solution has to be adopted as a global norm since any one country imposing it alone would suffer capital flight.

Miller (1986) pointed out that regulation and taxes function as the sand in the oyster shell that provokes the pearl of financial innovation. But the pearl in this case has turned out to be an atom bomb, and was provoked by regulatory capture that convinced regulators not to regulate. Investment banks lobbied for differential regulation and then could draw in talent to innovate since they were the least regulated. To prevent such innovative future sidestepping, any tax or regulation has to be global.

Such a global norm has a chance of being adopted now, when the experience of the crisis is fresh, and meetings are being organized to debate changes in the international financial architecture[11]. But this requires a swing towards other social groups, away from the extreme respect and power that financial markets commanded, and would be part of the movement to a middle way. For example, regulators should get relatively more respect and remuneration, enabling them to become more independent of markets. Recognition of the vulnerability of unfettered markets would make them more vigilant. Apart from the watering down of regulatory rules, the ideology that markets know best, made regulators lax in implementing even such rules as there were.

[11] The G-20 meet in the US in November reached considerable agreement on stronger regulation of hedge funds, transparency, global standards, and the availability of funds for emerging markets to fight a crisis not of their making, but incentive features and global agreements on tax rates were not discussed

More representation and voice for emerging markets in international bodies will allow the “debtor view” also to be heard. It was the dominant “creditor or finance view” that defeated reform proposals for more transparency of hedge funds after the East Asian crisis (Goyal, 2002). Better balance of power and more diversity of views is essential to prevent one view that could be wrong and eventually harm itself, from dominating. Real reform of the international financial architecture will make it possible to unwind the reserves Asian countries have been forced to accumulate partly as a precautionary measure in response to leveraged and volatile capital flows. Limits on clever financial solutions will force necessary real reforms to remove imbalances.

There is a political economy of reform and positions are taken based on interests. Industry lobbyists want CBs to focus on "systemic risk", to permanently provide liquidity to diverse markets. They want consolidation of financial regulatory agencies, and loosening of accounting standards. They are already trying to pass the blame on to regulators and intervention[12] when they had earlier successfully pushed for the market friendly regulation followed. They are willing to concede to more transparency, but want it to be limited and focused depending on audience needs (IIF, 2008). There will be a fierce debate about the form regulatory reform will take. It is important to cut through to the core set of proposals that will make financial markets more robust and thus benefit both groups in the long run.

World opinion is veering around to stricter regulation for financial markets[13]. Hahn and Passell (2008) caution against undertaking inappropriate regulatory reform, in a reactive post crisis mode. They point out that in the post depression years the problem was wrongly taken to be low and falling prices so harmful restrictions were placed on competition. These created vested interests making change very difficult. Therefore reform should be carefully designed keeping basic principles in mind, such as include reducing excessive risk-taking, increasing the diversity of views in the market, factoring in systemic risk, improving transparency, attaching conditionality to public money, and universal application of basic rules to prevent regulatory arbitrage. We

[12] Gorton (2008), for example, puts the blame for the panic of 2007 on sub-prime loans and poor knowledge of original risk. He largely exonerates securitization and derivatives, but while the sub prime crisis remained largely local, the global crisis of 2008 was propelled by the collapse of the latter. Sub prime was small change in comparison.

[13] See DOT (2008) and PWGFM (2008) for a summary of official views in the US, the country whose financial innovations have created worldwide problems.

argue that creating the correct incentives for market participants is the most important principle. Regulators need good information flows to be alert to distortions, risky behaviour and fraud. Oversight must be strong enough to detect criminals, but better incentive structures may be sufficient to induce better behaviour from the average participant, and reduce information and oversight load while protecting the energy and innovation of markets.

Price discovery in financial markets is definitely flawed by herd behaviour and over-reaction, but futures markets are supposed to help producers plan future output and to hedge risks. Regulatory tightening proposed in response to speculation in international oil futures includes raising margin and position limits to restrict leverage, and making entry more difficult.

As agricultural inflation rose, the GOI (2008) set up a committee to examine the effect of commodity futures markets, but the committee could not reach consensus. It found no unambiguous evidence of the effect of future trading on inflation. For some commodities inflation had accelerated after the introduction of futures, for others it had slowed down. The Chairman felt, however, that although clear causality could not be established, delisting of wheat futures reduced the transmission of international price pressures. As past committees had also pointed out, under scarce supply conditions, such as the fall in buffer stocks below norms, trading increases prices since everyone expects prices to increase. Recommendations were to improve regulations, information, transparency, participation by diverse groups, design contracts to encourage hedging over speculation, distinguish between hedgers and speculators with differential margins and discounts in fees or taxes for each category, and reduce arbitrage in response to selective regulatory tightening.

Other Policy Responses

Apart from inflation control through productivity improvements and the improved financial regulation discussed above, this section draws together other changes that could benefit the aged. These range from pension reform and other specific social security measures, to covering medical needs, for example, through special schemes for medical services through public-private partnership. Finally, there are a number of special measures such as better organization as a vote group, disability access and the provision of other facilities that can keep the old an active, vital part of the community.

Old Age Income Security

Those above 60 years were only 5.5 percent of the Indian population in 2001 but the UN estimates this will increase to 20 percent in 2050[14]. Only about a quarter of India's current elderly have any social security cover. A large expansion in pension schemes is required to provide security for the coming explosion in numbers.

The public pension system was restricted to government employees and workers in the organized private sector—it covered only 13 percent of the workforce. The Employees' Provident Fund and Employees' Pension Scheme set up in 1952, for the organized labor force in the private sector remained heavily undersubscribed—with only 40 million members.

In 2004, the New Pension System (NPS) shifted all new central government employees to a defined contribution plan. The Pension Fund and Regulatory Development Authority (PFRDA) Bill (2005) aims to make the NPS available to all workers in the unorganized private sector, and to any person governed by the organized sector schemes. By April 2007, already about 500,000 members had joined the NPS. In 2007, the government also launched *Aam Admi Bima Yojana* insurance and health insurance (*Rashtriya Swasthya Bima Yojana*) for the unorganized sector (Irudaya Rajan, 2008). UTI has a microfinance based pension plan, which ties up with microfinance NGOs to offer pensions based on small regular payments.

NPS will allow personal pension accounts and entry of private pension funds. In 2009 six fund managers are to be selected by competitive bidding, and each will be allowed to set up asset management companies to offer upto six pension plans. FDI will be capped at 26 percent. Returns are not assured but the risk averse can select a scheme that invests only in government securities. Choice of one of these schemes is not mandatory, and a subscriber has the freedom to change a scheme or fund manager once in a year. There will be schemes that will migrate the portfolio according to the

[14] Irudaya Rajan (2008) gives South Asian elderly population as 100 million in 2000 with an expected projection to 400 million by 2050.

subscriber's age, gradually shifting weight from equities to debt. There is a default scheme, which is yet to be decided. LIC, SBI and UTI have won the contracts to manage the Centre's contributory pension scheme, and been able to give returns of eight percent.

What are the issues involved? The agencies involved in NPS may remain those such as LIC, SBI that are already running the nation's pension schemes and have the reputation and long- term credibility required. But the new governance structures can contribute to the required expansion in coverage. Worldwide, privatization of pension schemes has been about giving more choice and higher returns. But the recent crisis, that has destroyed pension assets of so many, questions the ability of private firms to protect assets let alone give returns. It underlines the importance of strong regulation and adequate capital adequacy. Regulation must impose a conservative bias, and correct for the psychology and incentives that can lead to excessive risk taking by savers and fund managers, since lifetime savings are at stake. Private pension funds charge high fees to cover active management inputs. But since these active inputs have not yielded very good results, schemes should include passive index trackers and fixed deposits that have low management inputs and therefore low fees. The default scheme should be in inflation indexed government securities. Especially if assured returns are done away with, inflation indexation is required. Assured returns impose a large fiscal cost on the Government, and impart rigidity to the interest rate structure. The shift to fully funded or defined contribution schemes, rather than the earlier pay-as you-go system will build up a large corpus of long-term investible funds available for infrastructure financing. They will also help develop bond markets[15]. They may not increase total Indian savings but will help shift the composition of Indian savings from physical to financial thus improving financial intermediation. On the whole, more competition, choice and wider coverage are improvements, but change must be slow and steady, giving time for regulators and fund managers to demonstrate their capability.

Improvement is also required in social protection programs, to help the vulnerable to manage the risks and shocks to which they are subject. Preventive programs such as

[15] At present pension funds can invest only ten percent of their corpus in the corporate debt market.

income support for rare and chronic diseases as well as the quality of public health care are the most important for the old. It may be possible to deliver quality health care through innovative public private partnerships that harness private initiative. Dr. Shetty's Hridalya hospitals in Bangalore are an example of the provision of quality healthcare at a low price through management innovations such as assembly lines for operations. Even so, public facilities have to be created to substitute for diminishing private care. Community based institutions normally offer better care.

Flexibility is very important in insurance schemes—allowing free choice of hospitals to ensure quality and allow change of residence. Group schemes are necessary, since insurance companies are reluctant to give single private cover to the old (Bhusnurmath, 2005).

Special measures

A range of special measures is possible for senior citizens. In the information age it is possible for them to be better networked and informed. This can help them become a more effective political vote bank and fight for concessions such as tax slabs regularly adjusted for inflation; exemption from filing tax returns for those 75 years old or above; deduction of medical expenses from their income for tax purposes. NGOs are creating dedicated websites for seniors[16], and the RTI Act is helping them force the bureaucracy to implement rights they already have.

There are many facilities available abroad to help seniors that are yet to be implemented in India. An example is handicapped access. Another is *Progresa* (now called *Oportunidades*); one of the earliest conditional cash transfer (CCT) social assistance programs, started in Mexico in 1997 for the poor and vulnerable. Income transfers are used to reduce poverty in the short term, but since the transfers are conditional on the family's investment in their health and education they reduce poverty in the long term. Since in rural India seniors have a say in the education of their grandchildren, making transfers to them conditional on such education will help improve literacy, and the status of elders in the family.

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[16]Silver innings is one such site. Details available at: http://ngopost.org/story.php?title=Activist_proposes_separate_ministry_for_senior_citizens_launches_comprehensive_websiteSilver_Innings

The old also need to be protected against fraud and violence targeted specially at them, given their vulnerabilities. Security for old living alone has become a problem in many Indian cities. The US SEC has brought many enforcement cases involving alleged fraud against seniors, where financial firms target their retirement savings selling bogus investments. Seniors seeking investor education and advice at so-called "free lunch" seminars are often subject to misrepresentations and high-pressure sales tactics[17].

The old are living longer, so extending the retirement age, and making multiple and home based careers possible through training in information and communication technologies, is required to help them live with dignity. Women, who often outlive their partners, require special help. Making it possible for elders to live more productive lives will make a large contribution to the nation.

Concluding Remarks

We have explored the vulnerability of the old and marginalized to the recent crises hitting the world economy. These are the categories that, with little help, bear the brunt of the follies of firms and governments. We attempt to catalogue measures to lower the probability of future shocks, and to reduce the impact of shocks on the vulnerable.

Analysis of past Indian inflationary trends shows that policy has effectively subdued past inflation spikes, but output cost was least when food price inflation was low. Since the Indian polity is sharply averse to inflation spikes, the aged are protected from the persistent high inflation. But the complex of minimum support cum procurement price-subsidy policies resulting from the conflict between farmer and consumer interests has led to chronic low inflation. Low international food and commodity prices had moderated this inflation since the late nineties. International agricultural price shocks and persistent high agricultural inflation has underlined the

[17] Information for US Securities and Exchange Commission: http://www.sec.gov ; and North American Securities Administrators Association: http://www.nasaa.org

importance of improving agricultural productivity to contain Indian inflation. Supported by appropriate fiscal and monetary policies, Indian inflation can then fall below even its chronic historical levels.

Excessive risk taking and speculation in financial markets has aggravated global commodity inflation and resulted in a net transfer from the poor and vulnerable to the rich. Since taxpayer money is being used to bail out the financial sector, it must accept stronger regulation. This should be such as reduces the procyclicality of financial markets thus strengthening them. Taxes or prudential regulation that rise in boom times are equivalent to insurance premiums that would finance payouts in a slump, reducing incentives for excessive risk-taking. But such taxes have to be accepted as a global norm. A lone country applying this would be subject to capital flight. The revealed excesses of financial markets should make such a norm acceptable. It would help reverse the imbalance between taxes on labour and on capital created in modern times by greater capital mobility.

A number of special schemes are also required for the aged, to create more opportunities for their active participation in society, and to protect them from the specific risks. While improving coverage, competition and choice through some private entry in pension funds is desirable, strong regulation is a precondition to protect from excessive risk-taking and aggressive selling by private providers. Low risk inflation indexed savings options must also be made available.

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